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ABSTRACT

This booklet, the second in a series of eight describing the tenth-cycle Teacher Corps project of the University of Nebraska-Lincoln and the Lincoln Public School System, describes the diagnostic-prescriptive (D-P) instructional model used as the basic teaching process in the project. Key concepts in the D-P approach to teaching are presented, and the use of the process in relation to the competency based teacher education model described in booklet four is described. Steps in implementing the D-P teaching process are identified as: (1) diagnosing learner needs; (2) establishing desired learning outcomes; (3) planning and implementing prescriptions; and (4) assessing learning outcomes and program results. Record keeping in the D-P process is performed using two profiles: an individual learner profile and a group profile. Guidelines for their use are presented, and examples from each part of the two profiles are presented in the appendices. (MJB)

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LINCOLN TEACHER CORPS

IMPROVING LEARNING OPPORTUNITIES

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2 Diagnostic-Prescriptive Instruction

IMPACT SERIES

2

SP011 879

FOREWORD

The Lincoln, Nebraska Teacher Corps Project is pleased to present its Cycle 10 report through this IMPACT Series. Booklets 1-7 present a descriptive report of project themes and processes (models) while Booklet 8 presents a research report of results obtained with learners, teachers and community personnel.

The impact of Teacher Corps activities upon individuals and institutions is evident from the data reported, hence this IMPACT Series. Following Booklet 1, which presents an overview of the entire project, each booklet presents a major theme developed, implemented and refined in the Lincoln Teacher Corps. Generally, these themes have been implemented through models--recommended processes and/or structures which have proven effective in achieving desired outcomes. Each booklet is designed for use in instructional settings, in disseminating Teacher Corps principles and practices, and in reporting outcomes and recommendations.

The Lincoln Teacher Corps truly has been a team effort. School, community and university personnel have worked together effectively to achieve project goals. Sincere thanks go to all who shared in the Cycle 10 project. By sharing and serving others, we have discovered desired results in ourselves as well as in those we served. We look forward to new sharing/growing experiences in Cycle 12 Teacher Corps.

John Lux
Director

Diagnostic-Prescriptive Instruction

The diagnostic-prescriptive (D-P) instructional model portrays the basic teaching process developed, implemented and refined in the Lincoln Teacher Corps Project. Our experience indicates that it is suitable for learning experiences in all secondary school areas and that both teachers and teacher trainees achieve desired learning outcomes implementing the model. Also, achievements of learners in both individual and group settings are enhanced (see Booklet 8 for research findings).

Instructional Model

Key Concepts in Model

1 – The focus is on the learner--teaching is defined as the *ability to bring about desired learning outcomes in students.*

2 – Diagnostic-prescriptive teaching is a *process* with four parts necessary for successful learning. Each part has several elements enabling the process to be flexible in sequence and emphasis.

3 – Parts 1 and 2 blend together and usually are done simultaneously, starting with broad goals and needs, moving to objectives and assessment of present level of proficiency, and finally to pinpointed needs, specific learning outcomes and assessment indicators.

4 – The teacher is the diagnostic-prescriptive leader but should involve learners, parents, teaching teams (trainees, aides, etc.) and other community and school resources in the process.

5 – There is a direct relationship between the instructional (D-P) model and the competency-based teacher education (CBTE) model (described in Booklet 4). The generic competencies found in Clusters I and III of the CBTE model relate directly to the diagnostic-prescriptive process while other competencies support the D-P process in more general ways.

Using the Diagnostic-Prescriptive (D-P) Process

Part 1 – Diagnosing Learner Needs

There are six teacher performance and six learner result indicators (behaviors which are evidence of the demonstration of this competency) which are basic to the first part of the D-P model. The key ideas are to:

a) Use school and subject goals and objectives as guidelines for identifying learner needs
b) Preassess entering behaviors of learner using appropriate assessment means
c) Pinpoint specific learner needs and state them clearly as the focus of instruction
d) Involve learner and other interested parties in the diagnostic process
e) Verify diagnostic data whenever possible.

Part 2 – Establishing Desired Learning Outcomes

Part 2 of the D-P model contains two very important skills, each expressed as a competency in the CBTE model. Competency 1.2 relates to the specification of desired learning outcomes (objectives) while Competency 1.3 relates to the specification of assessment indicators acceptable to measure the achievement of each learning outcome.

The key ideas in 1.2 are to:

a) State clearly the learner behaviors desired
b) Involve the learner and other interested parties in establishing the objectives
c) Relate the learning outcomes to the diagnosis, the school and subject goals, and to the learner's situation (prior experiences, environment, level of achievement)

The key ideas in 1.3 are to:

a) State clearly in advance what will be acceptable evidence of achievement of each learning outcome
b) Provide a flexible system of assessment–reflecting differences in rate, style of learning and levels of achievement.
c) Involve learner and other interested parties in determining what evidence will be acceptable for each objective.

Diagnostic-Prescriptive Instructional Model

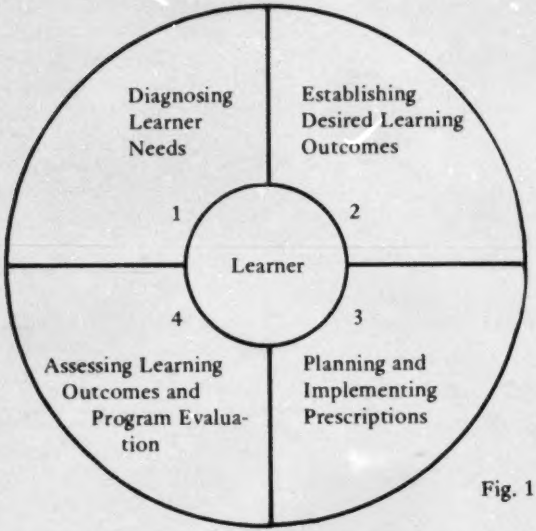


Fig. 1

Part 3 – Planning and Implementing Prescriptions

Competency 1.4 of the CBTE model is the primary competency on instructional planning, but Cluster VI (subject area competencies) is vital in this part as well. Implementation competencies are centered in Clusters II and IV.

The key ideas expressed in 1.4 are to:

a) Involve learner and other interested parties in developing and experiencing appropriate learning activities
b) Relate learning activities directly to diagnosis, learning outcomes and assessment indicators
c) Build and use flexible plans which recognize learner differences in rate, style of learning, content levels and environment
d) Reflect teacher, team and school/community strengths
e) Maximize practical, success-oriented materials and experiences.

Part 4 – Assessing Learning Outcomes and Program

The three competencies in Cluster III of the CBTE model relate directly to Part 4 of the D-P process. The key ideas in Competency 3.1 are to:

a) Gather achievement data in direct relationship to each desired learning outcome
b) Use appropriate assessment measures and to integrate their use into the instructional plans
c) Individualize assessment procedures as much as possible
d) Follow sound assessment principles in all situations

e) Involve learner and other interested parties in assessment activities

The key ideas in 3.2 are to:

a) Provide clear and complete feedback to learner and other interested parties
b) Report findings accurately in terms of each learning outcome
c) Prepare discrepancy reports for learners not reaching desired outcomes with appropriate recommendations for further instruction

The key ideas in 3.3 are to:

a) Use assessment data to request specialized services if needed
b) Use assessment data to improve instruction
c) Build a learner profile to assist in individualizing instruction
d) Involve learner and other interested parties in evaluating progress and program.

Recording Diagnostic-Prescriptive Data

Two *Profiles* - one for individual learners and one for groups of learners - are recommended for record keeping purposes. When completed, they become a part of the Profile for each learner. Guidelines for Profile use are:

Appendix A contains samples of the individual and group Profiles. Appendix B contains different examples from each part of the Profiles.

1. General data about the learner may be obtained from the student's profile folder, from a visit with the learner, or from other school or community personnel acquainted with him or her. As the contract with the learner progresses, you may wish to add new data which will be valuable at future times.

2. General data about the instructional contract are for reporting and program evaluation purposes. These data should be filled in during instruction.

3. The diagnosis of learner needs should be recorded on the Profile prior to instruction. While new data may be added, especially if the contract shifts focus, it is essential that instruction be based on pinpointed needs.

4. The key to reporting participation by personnel other than the teacher or trainee responsible for the instruction is:

   (1) The teacher or trainee makes the decision without any input or discussion with any other person.
   (2) The teacher or trainee makes the decision alone but informs the learner, parent, agency and other team member(s) of the decision.
   (3) The teacher or trainee makes the decision and discusses it with the learner, parent,

agency and other team member and gets approval of the decision from any or all of these people.

(4) The teacher or trainee uses input from the learner, parent, agency and other team member(s) to make the decision and shares the decision with all concerned.

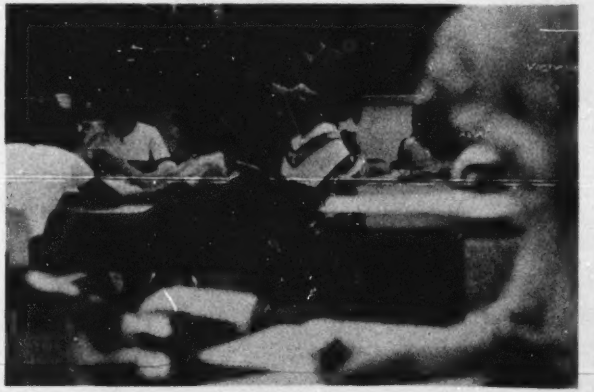
(5) A joint decision is made by the teacher or trainee and one or more of the involved personnel. Ownership of the decision is assumed by more than one person.

5. Desired learning outcomes are to be stated on the Profile prior to instruction. They always should describe what the learner will be able to do by the end of the contracted period.

6. The assessment plan is to be stated on the Profile prior to instruction. Each desired learning outcome (No. 5 above) should have at least one assessment indicator planned so that learner achievement can be easily measured against the indicator(s) specified.

7. The learning activities should be a summary of the actual instructional plans but need not detail these activities.

8. Assessment results should specify the achievement or lack of achievement for each learning outcome. These data should be verified by the team leader or cooperating teacher with such other data as might be valuable for the learner, the teacher trainee or others involved in the contract.



Appendix A

INDIVIDUAL LEARNER PROFILE

Student _____ Contract No. _____

Teacher _____ Resource Teacher _____

General Data About Learner:

Special Interests:

Special Needs:

Other:

Developmental Levels:

Conceptual Level _____ _____ _____ _____

Authority Rel. Level _____ _____ _____ _____

Peer Rel. Level _____ _____ _____ _____

Self-Image Level _____ _____ _____ _____

Dates Recorded: _____ _____ _____ _____

General Data About Contract:

Subject Area:

Amount of Time Spent with Learner:
No. Days _____ Time per Day _____
Days Learner was Absent _____

Other:

I. Diagnosis

Participants in Diagnosis:

Student	1 2 3 4 5
Parent	1 2 3 4 5
Agency	1 2 3 4 5
Team Members	1 2 3 4 5

II. Desired Learning Outcomes

Participants in Diagnosis:

Student	1 2 3 4 5
Parent	1 2 3 4 5
Agency	1 2 3 4 5
Team Members	1 2 3 4 5

III. Assessment Plan (Indicate acceptable evidence of achievement for each learning outcome.)

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

IV. Learning Activities (Summarize planning of prescriptions.)

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

V. Assessment

Participants in Diagnosis:

Learner Results for Each Outcome:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

Classroom Teacher Assessment

Learner Outcomes

Resource Teacher Achievement

Achievement Other Than Those Specified

GROUP PROFILE

Group _____ Contract No. _____

Teacher _____ Resource Teacher _____

General Data About Group:

No. of Students:

Names (if less than seven):

Other:

General Data About Contract:

Subject Area:

Amount of Time Spent with Group:
No. Days _____ Time per Day _____
Days Learner was Absent _____

Other:

I. Diagnosis

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

II. Desired Learning Outcomes

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

III. Assessment Plan (Indicate acceptable evidence of achievement for each learning outcome.)

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

IV. Learning Activities (Summarize planning of prescriptions.)

Participants in Diagnosis:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

V. Assessment

Participants in Diagnosis:

Learner Results for Each Outcome:

Student	1	2	3	4	5
Parent	1	2	3	4	5
Agency	1	2	3	4	5
Team Members	1	2	3	4	5

Classroom Teacher Assessment:

Learner Outcomes

Resource Teacher Achievement

Achievement Other Than Those Specified

Appendix B

The following are examples from Individual and Group Profiles. All examples numbered 1 go together; all number 2's go together, etc.

Diagnostic Areas

U–Understandings, knowledge
AS–Academic Skills - to read, write, compute, type, classify, analyze, locate and use data, make decisions, spell, compare
S–Social Skills - work effectively with others, follow directions
A–Attitudes - express feeling, show empathy, clarify values, self-concept, willingness to participate
P–Personal Learning Patterns - slow pace, specific learning disability, emotional pattern, attention span, attendance pattern.

I. Diagnosis

1. (U) Pretest information and discussion would indicate that the class is unable to identify the cultural differences of immigrant groups.
2. (U) Pretest data has shown that the class is unable to distinguish between various figures of speech.
3. (AS) Steve is not able to do subtraction problems involving zeroes.
4. (AS) Patty is not able to distinguish complete from incomplete sentences, or write complete sentences.
5. (S) Observation indicates the boys have difficulty following teacher directions, following classroom procedures and working together as a group.
6. (S) Rick is constantly involved in hitting, yelling, and throwing during the class period.
7. (A) Kevin lacks confidence in himself, does not feel he can succeed in classroom tasks and will not volunteer to do anything new.
8. (A) Pretest and class discussion indicate that the class has no appreciation for the feelings and values of immigrants to America.
9. (P) Penny is not able to keep up with the pace of the typing class or the teacher.
10. (P) Mark becomes easily frustrated over doing his work and often throws things in anger. When reprimanded, he frequently cries.

II. Desired Outcomes

1. (U) Students will recognize cultural

differences in various immigrant groups.

2. (U) The students will recognize and name various figures of speech found in works of literature.
3. (AS) Steve will be able to do subtraction problems involving zeroes.
4. (AS) Patty will be able to distinguish between complete and incomplete sentences and will be able to write complete sentences.
5. (S) The boys will be able to follow teacher directions, follow classroom procedures and work together as a group.
6. (S) Rick's behavior in class will contribute to the learning environment.
7. (A) Kevin will develop a positive self-concept in relation to his classroom activities.
8. (A) The class will develop an appreciation of the feelings and values of immigrants.
9. (P) Penny will learn the basic position of letters and numbers on the keyboard.
10. (P) Mark will be able to handle frustration in a socially acceptable manner.

III. Assessment Plan

1. (U) [a]Student will be able to list three different elements of cultural heritage from four different immigrant groups.
   [b]Student will write a three-page report comparing in detail the cultural differences between immigrant groups.
   [c]Students will creatively show through songs, poetry and drawings cultural differences.
   [d]On a test concerning cultural differences of immigrant groups the student will at least score 80 per cent.
2. (U) [a]The student will be able to write three examples of simile, personification and metaphor.
   [b]From a chapter from the *Christmas Carole*, students will identify similes, metaphors, personification.
   [c]On a test over figures of speech the student will score at least 80 per cent.
3. (AS) [a]Steve will be able to explain how to do subtraction problems involving zeroes.
   [b]Steve will be able to work one 3-place subtraction problem involving zero and check it in 15 seconds.
   [c]On a test involving subtraction problems with zeroes, Steve will score at least 80 per cent.
4. (AS) [a]Given a list Patty can correctly identify complete and incomplete sentences and explain why she answered as she did.
   [b]Patty will be able to write several examples of complete sentences and explain why it is complete.
5. (S) [a]The boys will do a task as assigned by the teacher without her repeating the directions.
   [b]At the end of the period equipment will be cleaned and replaced according to

established procedures.
[c]The boys will divide the tasks assigned to the group among themselves in order to finish the task.
[d]The boys will finish the assigned task in the assigned amount of time.

6. (S) [a]Rick will remain in his seat except for obtaining materials.
[b]Rick will not interupt other students while they are speaking.
[c]Rick will assist other students when asked to do so by the teacher.
[d]Rick's P-Ratio will be 95 per cent.

7. (A) [a]Kevin will volunteer to answer questions.
[b]Kevin will try one new activity each week.
[c]Kevin will make statements such as I will do this or I like doing this.

8. (A) [a]Students will make statements concerning the feelings and values of immigrants.
[b]Students will compare the values of immigrants with their own values.
[c]Students will explain in writing why the immigrants had the feelings and values they had.
[d]Students will express a willingness to accept feelings and values other than their own.

9. (P) [a]Penny will be able to type a line as printed in her typing book without looking at the keyboard.
[b]Penny will be able to name the numbers and letters on the keyboard and their position.
[c]Penny will use the correct fingers when typing.

10. (P) [a]When Mark does not understand the assignment he will ask the teacher for help.
[b]When Mark does not understand the assignment he will ask another student for help.
[c]If Mark does not receive immediate help, he will go on to a part he does understand.
[d]If Mark is unable to do any of the assignment, he will read or draw until a teacher can help him.
[e]If Mark is reprimanded, he will make an agreement with the teacher concerning his behavior.

IV. Assessment Results

1. (U) [a]Seventy-five per cent of the class were able to list three different elements of cultural heritage from four different groups.
[b]All students turned in reports comparing cultural differences between migrant

groups.

[c]All students submitted some type of creative endeavor which portrayed cultural differences. (Examples enclosed.)

[d]Twenty out of twenty-five students scored at least 80 per cent on the tests (grade list included).

2. (U) [a]All students turned in examples of simile, personification and metaphor (examples included).

[b]All students identified figures of speech from the *Christmas Carole* (examples included).

[c]The entire class scored better than 80 per cent on the test over figures of speech.

3. (AS) [a]Steve was able to explain how to do subtraction problems involving zero.

[b]Steve is able to work one 3-place subtraction problem involving zero and check it in 15 seconds.

[c]Steve scored 93 per cent on a test involving subtraction with zeroes. (Test included.)

4. (AS) [a]Patty is able to identify complete and incomplete sentences and explain the difference between them.

[b]Patty is able to write several examples of complete sentences (examples included).

5. (S) [a]The boys are able to do assigned tasks without having directions repeated.

[b]At the end of the period the boys had returned and cleaned all equipment.

[c]The boys were not able to divide tasks among themselves.

[d]The boys were not able to finish assigned tasks in the assigned amount of time.

6. (S) [a]Rick was able to remain in his seat during the period.

[b]Rick interupted four students during the last week of class.

[c]Rick assisted four other students during the last week.

[d]Rick's P-Ratio was 90 per cent.

7. (A) [a]During October Kevin volunteered to answer questions eight times.

[b]During the first two weeks Kevin tried no new activities, during the last two weeks he tried three new activities.

[c]In October Kevin made no statements such as I will do this or I like this.

8. (A) [a]Each student in class made some statement concerning feelings and values (see video-tape No. 7).

[b]The students wrote a paper comparing their own values with the values of immigrants - class average on these papers was 85 per cent.

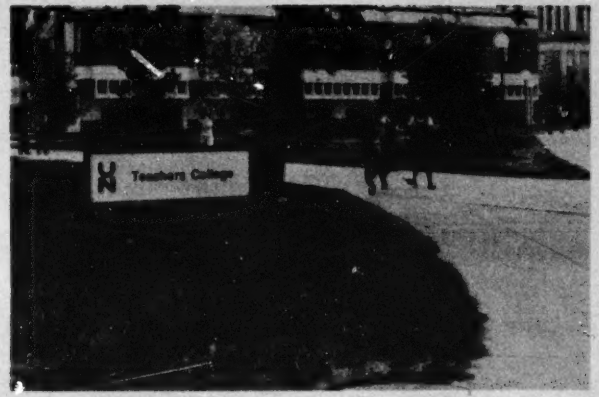
[c]Each student submitted a poem concerning immigrant feelings and values (examples included).

[d]Students demonstrated a willingness to accept feelings and values of others by performing in a skit on the slave

experience (see video tape No. 8).

9. (P) [a]Penny has demonstrated the ability to type lines from her typing book. (See enclosure.)
[b]Penny can name the numbers and letters on the keyboard.
[c]Penny does not use the correct fingers when typing.

10. (P) [a]Mark asked the teacher for help once during the week he was observed.
[b]Mark has asked other students for help once during the week.
[c]Mark is able to wait for help if it is not immediately available (see video tape).
[d]Same as c.
[e]Mark has made five agreements with his teacher during the week (see enclosed agreements).



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